

Office of Missouri State Auditor Nicole Galloway, CPA

Crime Victims' Compensation System Data Analytics

Report No. 2018-098 September 2018

Poor:

CITIZENS SUMMARY

Findings in the audit of Crime Victims' Compensation System Data Analytics

Data Validation	Some Crime Victims' Compensation (CVC) system edit checks are not working correctly or effectively. Establishing additional edit checks would further help to ensure the accuracy of CVC records.
Automation Opportunity	The Department of Public Safety (DPS) could improve the efficiency and effectiveness of processes used to ensure Missouri courts submit CVC Program fees collected to the state.
Payment Reductions	The DPS has not formally documented procedures for reducing payments to victims due to noncompliance with program rules and state law.

In the areas audited, the overall performance of this entity was Good.*

Excellent: The audit results indicate this entity is very well managed. The report contains no findings. In addition, if applicable, prior recommendations have been implemented.

Good: The audit results indicate this entity is well managed. The report contains few findings, and the entity has indicated most or all recommendations have already been, or will be, implemented. In addition, if applicable, many of the prior recommendations have been implemented.

Fair: The audit results indicate this entity needs to improve operations in several areas. The report contains several findings, or one or more findings that require management's immediate attention, and/or the entity has indicated several recommendations will not be implemented. In addition, if applicable, several prior recommendations have not been implemented.

The audit results indicate this entity needs to significantly improve operations. The report contains numerous findings that require management's immediate attention, and/or the entity has indicated most recommendations will not be implemented. In addition, if applicable, most prior recommendations have not been implemented.

^{*}The rating(s) cover only audited areas and do not reflect an opinion on the overall operation of the entity. Within that context, the rating scale indicates the following:

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NICOLE GALLOWAY, CPA Missouri State Auditor

Honorable Michael L. Parson, Governor and Sandra K. Karsten, Director Department of Public Safety Jefferson City, Missouri

We have audited certain operations of the Department of Public Safety, Crime Victims' Compensation (CVC) system. This audit was conducted in fulfillment of our duties under Chapter 29, RSMo. The objectives of our audit were to:

- 1. Evaluate the use and effectiveness of data management, monitoring, and analytic techniques for ensuring restitution obligations are satisfied and for preventing or detecting potential CVC Program abuse or misuse.
- 2. Evaluate whether the CVC system maintains and reports accurate restitution data.

We conducted our audit in accordance with the standards applicable to performance audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform our audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides such a basis.

For the areas audited, we identified (1) the need for improvement of data management, monitoring, and analytic techniques utilized by the department to prevent and detect potential CVC Program abuse or misuse and (2) no evidence of inaccurate restitution data maintained or reported by the CVC system. The accompanying Management Advisory Report presents our findings arising from our audit of Crime Victim's Compensation System Data Analytics.

An additional report, No. 2018-064, Crime Victims' Compensation System Data Security, was issued in August 2018.

Nicole R. Galloway, CPA State Auditor

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Background

The Missouri Crime Victims' Compensation (CVC) Program is designed to financially assist victims who have sustained bodily or psychological injury in paying for reasonable medical expenses, counseling expenses, funeral expenses, and lost wages or loss of support incurred as the result of being a victim of a crime. The CVC Program is a payor of last resort that pays for financial losses not covered by other sources, such as insurance, worker's compensation, or restitution from the offender.

The program was established in 1981 under the administration of the Department of Labor and Industrial Relations, Division of Worker's Compensation. By Executive Order 07-07, the program was transferred to the control of the Department of Public Safety (DPS), effective August 28, 2007. The CVC Program is in the DPS Office of the Director.

The current CVC computer system was custom-developed for the state by a third-party contractor and replaced legacy computer systems supporting the program. The department placed the current system into operation in April 2016. Ongoing technical support for the CVC system, including security guidance, the operating environment, and other services is provided by the Office of Administration - Information Technology Services Division (OA-ITSD). In addition to the CVC Program, the computer system also supports the operations of the Sexual Assault Forensic Examination (SAFE) Program and the Child Physical Abuse Forensic Examination (CPAFE) Program.

According to the Government Accountability Office (GAO), reducing improper payments, including those that are the result of fraud, is critical to safeguarding funds and helping to achieve potential cost savings. As a result, leading practices highlighted by the GAO¹ have increasingly focused on the need for program officials to take a strategic approach to managing improper payments and risks that include abuse and fraud. These leading practices can provide a guide for program managers to use when developing or enhancing efforts to combat fraud in a strategic, risk-based manner.

A critical strategic approach component involves implementing preventive and detective controls, including data analytics. Data analytics is a rapidly evolving field of information science that involves a variety of techniques to examine, analyze, and interpret large volumes of data, according to the GAO and other leading practitioners. Data analytics helps facilitate decision making by identifying patterns or trends, determining whether problems are widespread and systemic in nature, and evaluating program performance and outcomes.

¹ GAO, Report GAO-17-339SP, *Data Analytics to Address Fraud and Improper Payments*, March 2017, < https://www.gao.gov/assets/690/683859.pdf >.



Recent trends in data development and advanced analysis are creating innovation possibilities that carry the promise of far-reaching economic and societal benefits, according to the GAO. Areas such as health care and public benefit systems may be improved or even transformed by innovations derived from new data analytics. Advanced analytics includes new tools for examining large amounts of data to uncover subtle or hidden patterns, correlations, and other insights, such as anomalies, trends, or potential abuse. The use of analytic results to improve actions or decisions is being transformed - improving decisions or actions and thereby extracting new economic and societal benefits, according to the GAO.

Program funding

The CVC system processes claims for program expenditures from the following funds:

- The Crime Victims' Compensation Federal Fund was established to account for federal monies maintained in the state treasury for the use of the CVC Program. These funds may be received in advance, when related expenditures are made, or after related expenditures are made. Appropriations from this fund authorize disbursements for crime victims' payments.
- The Crime Victims' Compensation Fund was established to award compensation to, or on behalf of, victims of crimes. Appropriations from this fund authorize payments directly to the provider of services for medical or funeral expenses, or expenses for other services as allowed as a payor of last resort for the victim. Other appropriations from this fund pay expenses of the SAFE Program, the statewide crime victim notification system, court automation, and the Office for Victims of Crime. These appropriations are not part of the CVC Program.
- The General Revenue Fund is used for expenditures of the CPAFE Program and other expenditures of the SAFE Program

Victims may file a claim for payment from the CVC Program for up to 2 years after the date of the crime. The CVC Program reimburses a maximum of \$25,000 per claim for crime-related expenses. Some benefit categories have lower limits, which are also included in the \$25,000 maximum payout,² as follows:

- \$400 per week for lost wages
- \$5,000 for funeral expenses
- \$2,500 for counseling expenses
- \$250 for personal property (such as clothing or bedding) seized by law enforcement as evidence of the crime
- Attorney's fees, up to 15 percent of the total award

² Sections 595.025 and 595.030, RSMo.



The primary funding source for the CVC Program is a surcharge of \$7.50 assessed as costs on all criminal cases. For all courts, except municipal courts, the fee is collected and the entire amount is remitted to the Department of Revenue (DOR). The first \$250,000 collected each fiscal year is deposited to the State Forensic Laboratory Fund. Next, funds are allocated for payments associated with the administrative and operational costs of the Office for Victims of Crime and for the operation of the statewide automated crime victim notification system. Remaining funds are deposited equally to the Crime Victims' Compensation Fund and the Services to Victims Fund. Only the funds deposited to the Crime Victims' Compensation Fund are available to pay the expenses of the CVC Program. Receipts deposited to other funds are used for the purposes of the respective funds.

For surcharges assessed against municipal court cases, the municipality is allowed to retain 5 percent of the collections. The remaining 95 percent of collections is remitted to the DOR, where it is deposited equally between the Crime Victims' Compensation Fund and the Services to Victims Fund.³

In addition, except in cases of certain specified crimes, each case in which a plea of guilty or a finding of guilt is made, a judgement must be entered against the defendant in the amount of \$68 (for a class A or B felony), \$46 (for a class C or D felony), or \$10 (for a misdemeanor), to be deposited into the Crime Victims' Compensation Fund.

The Crime Victims' Compensation Fund is also allowed to retain interest earnings on the monies in the fund and to receive gifts and contributions for the benefit of victims.

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³ Section 595.045, RSMo.



Program payments

Crime Victims' Compensation System Data Analytics Introduction

Total claims processed through the CVC computer system from the Crime Victims' Compensation Federal Fund and the Crime Victims' Compensation Fund related to the CVC Program during state fiscal years 2013 through 2018 are presented in Figure 1.

\$6.0

\$5.0

\$1.0

\$1.0

\$1.0

\$1.0

\$1.0

\$1.0

\$1.0

\$1.0

\$2013 2014 2015 2016 2017 2018

Fiscal Year

Figure 1: CVC Claims Paid by Fiscal Year

Source: Data from the state's accounting system (SAM II).



Total claims processed through the CVC computer system from the Crime Victims' Compensation Federal Fund and the General Revenue Fund related to the SAFE Program during state fiscal years 2013 through 2018 are presented in Figure 2.

\$3.0 \$2.5 Claims Paid (in millions) \$2.0 \$1.5 \$1.0 \$0.5 \$-2015 2013 2014 2016 2017 2018 Fiscal Year

Figure 2: SAFE Claims Paid by Fiscal Year

Source: Data from the state's accounting system (SAM II).



Total claims processed through the CVC computer system from the General Revenue Fund related to the CPAFE Program during state fiscal years 2013 through 2018 are presented in Figure 3. The CPAFE Program was created in fiscal year 2015, with the first expenditures occurring in fiscal year 2016.

\$1,250

\$1,000

\$750

\$500

\$250

\$
2013 2014 2015 2016 2017 2018

Fiscal Year

Figure 3: CPAFE Expenditures by Fiscal Year

Source: Data from the state's accounting system (SAM II).

Scope and Methodology

The scope of our audit included evaluating (1) DPS management's approach to data analytics for preventing and detecting potential CVC program abuse, (2) policies and procedures, and (3) other management functions and compliance requirements in place during the period April 2016 (when the system was implemented) to June 2018.

Our methodology included reviewing written policies and procedures, and interviewing various DPS personnel. We obtained an understanding of the applicable controls that are significant within the context of the audit objectives and assessed whether such controls have been properly designed and placed in operation. We tested certain of those controls to obtain evidence regarding the effectiveness of their design and operation. We also obtained an understanding of legal provisions that are significant within the context of the audit objectives, and we assessed the risk that illegal acts, including fraud, and violation of contract or other legal provisions could occur. Based on that risk assessment, we designed and performed procedures to provide reasonable assurance of detecting instances of noncompliance significant to those provisions.



Under the supervision of DPS staff and utilizing a test environment, we entered data into the CVC system to test the functionality and accuracy of certain system data edits.⁴ We provided DPS officials with a listing of the edits we identified that did not properly work and had discussions with them about additional edits that might be added to improve functionality.

We obtained data files containing CVC transactions for the period January 2016 through May 2018 from the OA-ITSD (the division that maintains of the data). Included in this data were transaction records for claims filed before this period but still in the process of being paid. While the DPS owns this data, it is managed by the OA-ITSD on the department's behalf. To determine the reliability of the CVC data, we evaluated the materiality of the data to our audit objectives and assessed the data by various means, including (1) interviewing knowledgeable DPS officials, (2) reviewing existing information about the data and the system that produced them, (3) performing certain analytic techniques, and (4) reviewing internal controls. Based on this evaluation, we determined the data and information were sufficiently reliable for the purposes of this audit.

We based our evaluation on accepted state, federal, and international standards and best practices related to information technology security controls from the following sources:

- National Institute of Standards and Technology (NIST)
- U. S. Government Accountability Office (GAO)
- ISACA (previously known as the Information Systems Audit and Control Association)

⁴ An edit, also known as a data validity check, is program code that tests the input for correct and reasonable conditions; such as account numbers falling within a range; numeric data being all digits; and dates having a valid day, month, and year; etc.

1. Data Validation

Some Crime Victims' Compensation (CVC) system edit checks are not working correctly or effectively. Establishing additional edit checks would further help to ensure the accuracy of CVC records.

Depending on the type of input data, the CVC system may verify field values to help ensure the system only accepts accurate data. This process, referred to as an edit check, alerts a user with a message when data entered is invalid or outside the expected range of values for a specific input field. These edits are either "hard" meaning a valid value must be submitted before processing can continue, or "soft" indicating a value outside the expected range has been entered, but can still be accepted by the system after the user verifies the information is accurate.

Program limits and hierarchy

The Department of Public Safety (DPS) does not have fully-effective automated controls in place to ensure program payments adhere to established limits and the payment hierarchy.

As described in the background section, certain types of claim expenses have limits to the amount of funds that can be awarded. For example, a claim for the loss of personal property is limited to \$250. During testing, we entered a claim for loss of personal property in the amount of \$500 that was accepted by the test system.⁵

In addition, we determined the program payment hierarchy was not working correctly. Program rules⁶ specify when multiple expenses are included in a single claim, there is a specific order claim expenses should be paid until the maximum payment amount is reached. We entered a claim with seven expenditures to various parties including an attorney, the victim, and third parties such as a hospital, counselor, and a funeral home, totaling \$146,000. According to the program hierarchy, the system should have paid \$3,500 to the attorney and \$21,500 to the victim. The third party claimants, such as the hospital, counselor, and funeral home, should not have received funds because the maximum payment of \$25,000 would had been reached. Instead, the system correctly paid the attorney \$3,500, incorrectly paid the victim \$14,000, and awarded the remaining \$7,500 to the funeral home and counselor (with no award to the hospital).

When reviewing an extract of actual claim data from the live system, we did not identify any instances where a claim exceeded the limits for any expenditure line or any instances where the payment hierarchy was violated.

⁵ Testing was performed in a test system, which mirrors the controls in the production (live) system. This method ensures testing does not affect real records and eliminates the possibility of improper payments being issued.

⁶ 8 Code of State Regulations (CSR) Section 50-6.010(11)



We asked DPS staff how they ensured no improper claim payments were processed if system controls were not working properly. Staff said training to understand the limits and hierarchy, and manual reviews and approvals of transactions during processing allowed them to detect any anomalies. According to DPS management, the Office of Administration - Information Technology Services Division (OA-ITSD) has been requested to correct the hierarchy issue impacting how payments feed through the system when multiple claims are in pending status and to add the personal property limit to the system.

Relying on manual controls over automated controls significantly increases the risk that improper payments could be processed by the CVC system and not be detected timely.

System dates

During edit testing, we identified instances where illogical dates were accepted by the system. For example, the system would accept (1) the date a crime occurred as a future date, (2) dates of birth indicating a person would be well over 200 years old, and (3) a police report date prior to the date of the crime being reported.

In addition, in the section of the system for recording claims due to time lost from work, the beginning and ending date of the time lost from work as well as the number of days missed are entered. However, the system does not ensure the number of days missed does not exceed the difference between the beginning and ending dates. DPS staff were aware of this issue, and noted that program rules only state a limit of \$400 per week in lost wages, but the rules do not specify how any non-standard (such as part-time or flextime) wages should be calculated. In addition, the number of days of lost work is manually calculated outside the system because the system does not have the capability to accept multiple periods of time lost from work (such as an initial hospitalization and later follow-up appointments) on a single claim.

While date fields may not be critical for accurate processing of claims, allowing inaccurate data to populate the system decreases the usability of the data for potential future analysis.

Amounts

Several amount fields in the system improperly accepted negative amounts. Additionally, we noted a refund could be posted for an amount that exceeded the amount of the transaction being refunded.

Improper processing of claims because of inaccurate amount fields could lead to victims receiving improper payments due to miscalculations or a claim being improperly denied.

Monitoring of controls

The DPS does not have procedures in place to monitor and verify the effectiveness of existing edit checks and system controls.



During the testing process, we identified system edits that were not functioning properly as previously discussed. DPS staff indicated they were not aware these controls were not functioning correctly. The staff indicated the DPS relies on manual reviews of transactions to identify potential improper payments.

Periodic reviews of controls are necessary for the DPS to ensure controls are not inadvertently modified and to decrease the risk of inaccurate data being entered and processed by the CVC system.

Conclusion

Inadequate data validation and missing edit checks could allow inaccurate data to be input and processed by the CVC system. Manual reviews for unexpected results can detect inaccuracies and inconsistencies; however, by preventing inaccurate data input, staff resources can be more efficiently used for other purposes.

Recommendation

The DPS, in conjunction with the OA-ITSD, work to ensure existing edit checks function properly to help prevent the entry and processing of inaccurate data and determine if any additional edit checks could be established to improve data integrity. In addition, the DPS should implement controls to periodically verify the continued effectiveness and integrity of the edits.

Auditee's Response

As cited in the audit report, the DPS is working with the OA-ITSD to improve the performance of the CVC system. As the State Auditor's Office (SAO) noted in its report, a review of an extract of actual claim data from the live system did not identify any excessive claims or violations of the payment hierarchy. This successful performance is a credit to the careful attention and diligence of CVC claims processors. The CVC system steering committee will address the recommendation for further controls.

2. Automation Opportunity

The DPS could improve the efficiency and effectiveness of processes used to ensure Missouri courts submit CVC Program fees collected to the state. Currently, the process is mostly a manually intensive review of reports of fees submitted.

History

As discussed in the background section, the CVC Program is funded primarily by fees assessed on court cases filed in Missouri courts. The courts are responsible for collecting these fees and forwarding the collections to the Department of Revenue (DOR).

In addition to remitting fees collected to the DOR, courts are responsible for reporting to the Office of State Courts Administrator (OSCA) monthly the amount of fees collected. For courts using the statewide Judicial Information System (JIS), the OSCA obtains this data directly from the system. Other courts must report this information to OSCA manually.



A previous audit⁷ reported the program had not established procedures to ensure all courts remitted the fees that had been collected to the DOR as required. In their response, the Department of Labor and Industrial Relations officials (then the department overseeing the CVC Program) agreed to attempt to develop a process to ensure all applicable courts remit CVC collections to the DOR.

Current procedure

The DPS currently receives monthly reports from the DOR showing all entities that remitted CVC collections during the month. Quarterly, a DPS staff member manually compares these reports to a list of counties and municipalities known to have courts to identify any entities not remitting collections. These entities are then contacted to determine if funds should have been remitted. This staff member indicated it is not uncommon for smaller entities to not hold court or collect any fees during a month, and therefore, have no collections to remit to the DOR. Other common reasons for not remitting collections include staffing and training issues.

The staff member also noted department personnel can only determine from the reports provided if the court submitted a remittance to the DOR, but not if the remittance is accurate. As a result, the DPS has only limited assurances that courts are properly remitting CVC Program fees. DPS officials noted this process requires a considerable amount of time for their staff to perform the review and follow up on discrepancies noted. Further, the officials noted the DPS has no authority to require entities to remit collections. For these reasons, DPS officials indicated they have considered suspending the process of reviewing remittances.

Data analytics can provide high rates of return, offering potential for significant return on investment of resources needed to establish and maintain such a program. Using data analytic techniques to automate the process of reviewing and monitoring remittances, in addition to improving the efficiency of the process, could help to increase collections and to decrease the amount of staff time required to perform the reviews.

Recommendation

The DPS use data analytics to increase efficiencies in the process of monitoring the collections of CVC fees and for ensuring all entities remit funds as appropriate.

Auditee's Response

When available and appropriate, the DPS welcomes the use of data analytics and other tools to improve the performance of its programs. The DPS has met with the DOR and is working with the OSCA to determine the proper allocation of responsibilities regarding monitoring the collections of CVC fees and ensuring all entities remit funds as appropriate.

⁷ SAO, Report No. 2001-028, *Crime Victims Compensation Program*, issued in March 2001.



3. Payment Reductions

Crime Victims' Compensation System Data Analytics Management Advisory Report - State Auditor's Findings

The DPS has not formally documented procedures for reducing payments to victims due to noncompliance with program rules and state law. As a result, the DPS may have treated victims unequally and arbitrarily when determining compensation payments to award.

State law allows the DPS to reduce the claim amount awarded to a victim if sufficient funds are not available in the CVC Fund, and requires claim payments be reduced to the extent that other resources, such as insurance or direct restitution from the offender, are available to cover the expenses. The DPS is also allowed to reduce or deny a claim in instances where the victim contributed to the infliction of the victim's injury or death, and is specifically prohibited from paying a claim if police records show [the report of the crime] was made more than forty-eight hours after the occurrence of such crime, unless the department of public safety finds that the report to the police was delayed for good cause.

We reviewed four cases where the DPS paid claims at a reduced rate. In each case, supporting documentation from the CVC system was obtained to determine why the claim payments were reduced.

In the first case, the claim was reduced by 50 percent because the victim refused to cooperate with the police. A police report in the case file indicates the victim gave conflicting stories to investigators about when and where the crime occurred. When the victim was asked by investigators why he/she would lie to investigators, the report says the victim stated he/she did not trust the police. No documentation was provided to support why the DPS determined a 50 percent reduction was appropriate in this case.

A second case involved a victim who reported the crime to hospital staff when seeking treatment for his/her injuries. The victim stated he/she assumed the hospital would notify the police; however, the police were not notified within 48 hours of the crime. Because of this delay, program rules and state law indicate the victim's claim should have been denied. However, a letter in the case file from the DPS indicates the claim would be paid at a 50 percent reduction because the police report was not filed timely. The letter further states the DPS considers the exception in state law related to good cause to only apply to instances of domestic violence.

⁸ Section 595.045.12, RSMo.

⁹ Section 595.035.2, RSMo.

¹⁰ Section 595.035.3, RSMo.

¹¹ Section 595.030.2, RSMo. Effective August 28, 2018, this section was amended to remove the 48-hour limit to report a crime.



In a third case, the victim did not provide the medical provider with insurance information necessary for the provider to bill the insurance company. In this case, the DPS paid the remainder of the claim in full, but reduced this line item by 50 percent because other resources (insurance) were available to be used instead of the CVC program. The case file does not document how the DPS determined a 50 percent reduction was appropriate.

In the final case, the victim did not report the crime to police within 48 hours. The case file indicates the victim spoke with a police officer at his/her church 2 days after the crime, who told the victim to come to the police station the following day to file a report. A handwritten note in the case file initialed by the CVC Program manager states "[The victim] was not going to report on [his/her] own - Reduce 25%." A letter to the victim in the case file indicates the reduction occurred solely because a police report was not filed within 48 hours of the crime.

When asked about these cases, DPS officials indicated that, although allowed to deny the claims outright for the program violations noted, "the DPS prioritizes service to victims through the use of CVC funds" and thus approved the claims to provide assistance to the victims. While commendable, in two of these four cases the decision is in direct violation of a state law prohibiting claims if a police report is not filed within 48 hours unless the department determines there is good cause for the delay. Department personnel could not provide us a documented policy defining what constitutes good cause. The only documented information available in a case correspondence indicated the department considers the good cause exception to only apply to instances of domestic violence. Further, in these two cases the victims were treated inequitably, with one claim reduced 25 percent for the victim's failure to file timely and the other reduced 50 percent for the same reason.

While state law allows the department to waive timely filing requirements "for good cause," because the department considers good cause as applying only to instances of domestic violence, waiving the requirements for other reasons may constitute a violation of state law. Without documented policies and procedures regarding when waivers may be granted and how reductions in claims should be determined, the DPS is at risk of treating victims in similar circumstances inequitably.

Recommendation

The DPS formally develop and document internal policies and procedures regarding the circumstances in which victim's claims may be reduced, and by how much, in order to ensure victims are treated equitably, including defining the term "good cause." In addition, the DPS should ensure these policies are in compliance with state law.



Auditee's Response

The DPS concurs with this recommendation. It will develop a schedule of reductions to be utilized by the CVC unit when addressing claim reductions. The DPS strives to ensure that victims are treated compassionately and provided all benefits they are entitled to by law.